

CLAIMS

What is claimed is:

- 1 1. A method for forming a channel device comprising the steps of:
2 a) providing at least one active region on a substrate wherein the active
3 region comprises a plurality of discontinuous gate structures; and
4 b) providing an ion implantation in the substrate.
- 1 2. The method of claim 1 wherein step b) further comprises:
2 b1) masking the plurality of gate structures prior to the ion implantation.
- 1 3. The method of claim 2 wherein the active region comprises three gate
2 structures.
- 1 4. The method of claim 3 wherein each of the three gate structures comprises a
2 channel length of at least $0.13\mu\text{m}$ disposed at least $0.2\mu\text{m}$ apart.
- 1 5. The method of claim 1 wherein the ion implantation comprises a lightly doped
2 drain implant.
- 1 6. The method of claim 5 wherein the ion implantation further comprises a halo
2 implant.

1 7. The method of claim 5 wherein the ion implantation further comprises a pocket
2 implant.

1 8. The method of claim 1 wherein each of the plurality of discontinuous gate
2 structures are connected to a gate voltage source.

1 9. A system for forming a channel device comprising:
2 means for providing at least one active region on a substrate wherein the active
3 region comprises a plurality of gate structures; and
4 means for providing an ion implantation in the substrate.

1 10. The system of claim 9 wherein means for providing the ion implantation further
2 comprises:
3 means for masking the plurality of gate structures prior to the ion implantation.

1 11. The system of claim 10 wherein the active region comprises three gate
2 structures.

1 12. The system of claim 11 wherein each of the three gate structures comprises a
2 channel length of at least $0.13\mu\text{m}$ disposed at least $0.2\mu\text{m}$ apart.

1 13. The system of claim 10 wherein the ion implantation comprises a lightly doped
2 drain implant.

1 14. The system of claim 13 wherein the ion implantation further comprises a halo
2 implant.

1 15. The system of claim 13 wherein the ion implantation further comprises a pocket
2 implant.

1 16. The system of claim 9 wherein each of the plurality of discontinuous gate
2 structures are connected to a gate voltage source.